OIPE IAP12
SEP 19 2005
PATENT & TRADEMARK OFFICE

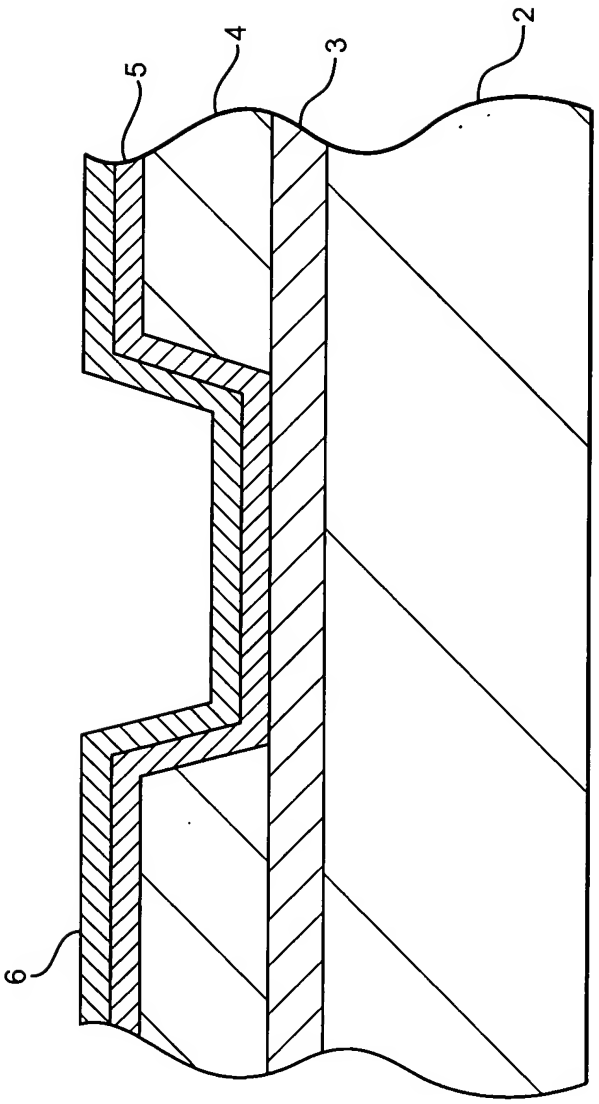

FIG - 1

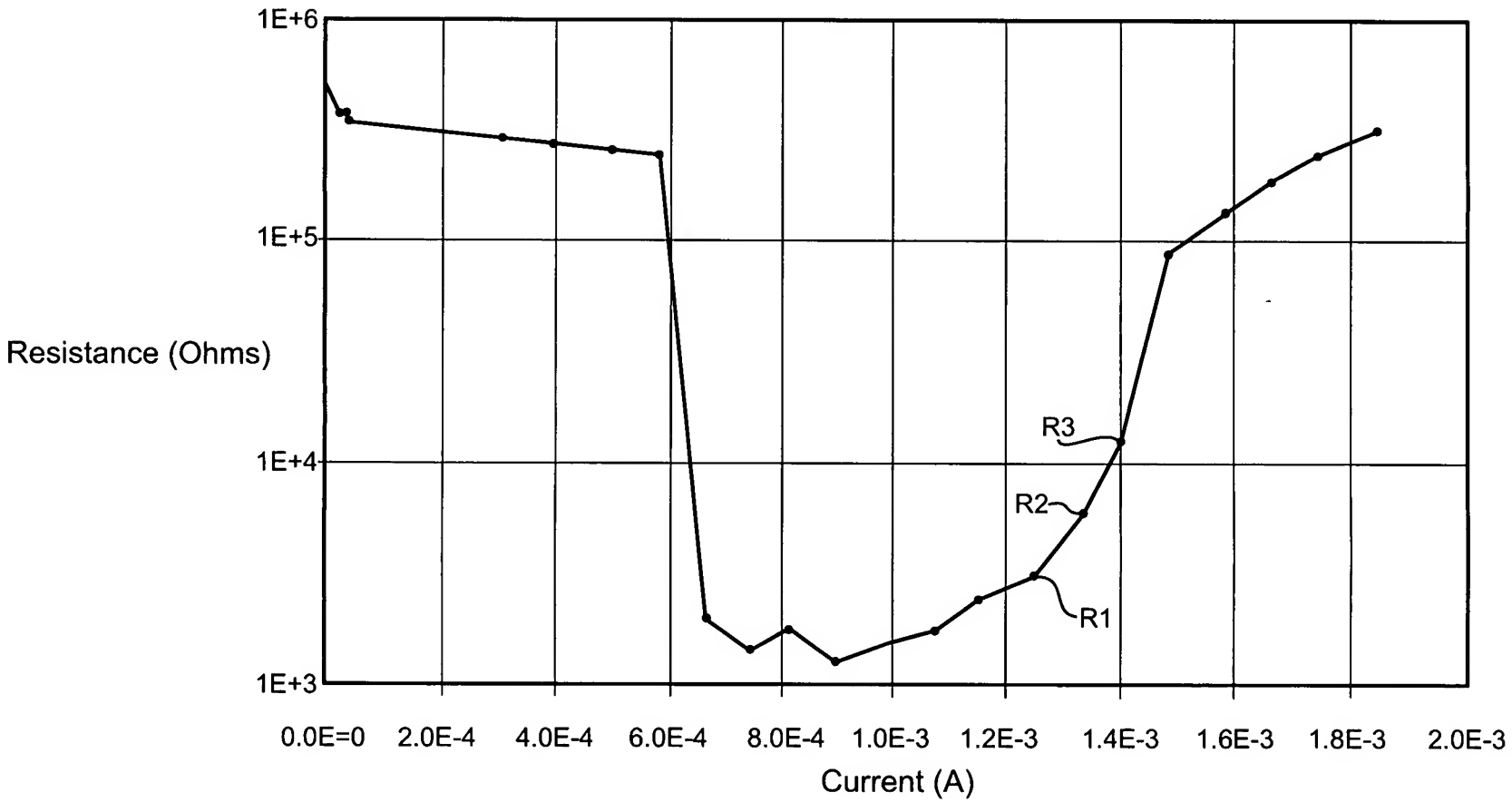
1E+6
1E+5
1E+4
1E+3
Resistance (Ohms)
R3
R2
R1
0.0E=0
2.0E-4
4.0E-4
6.0E-4
8.0E-4
1.0E-3
1.2E-3
1.4E-3
1.6E-3
1.8E-3
2.0E-3
Current (A)

FIG - 2

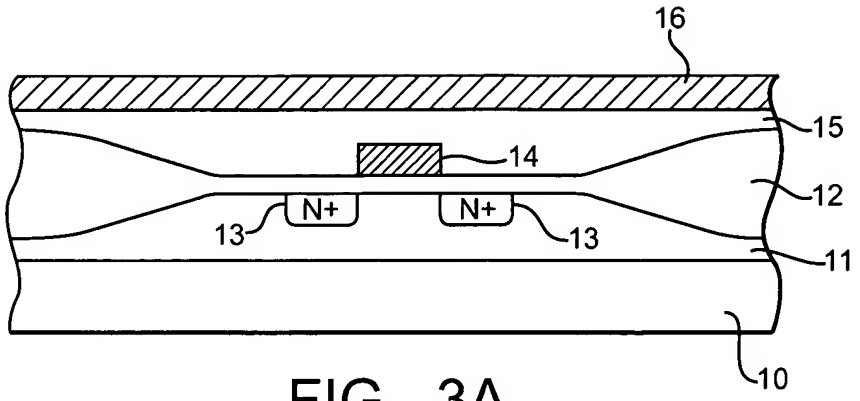

FIG - 3A

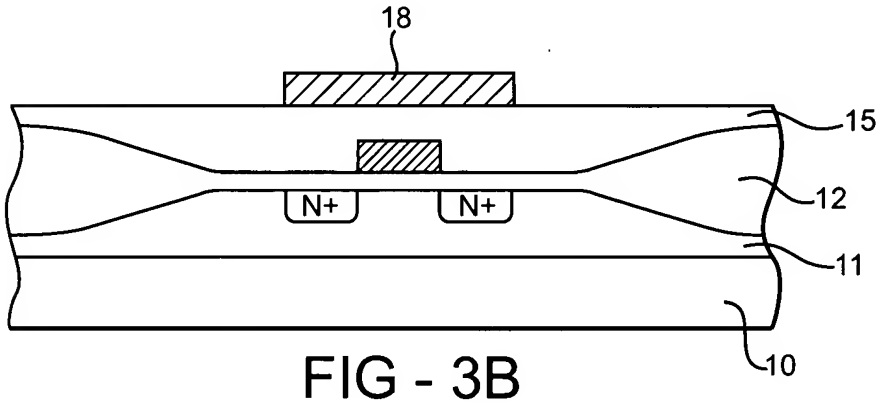

FIG - 3B

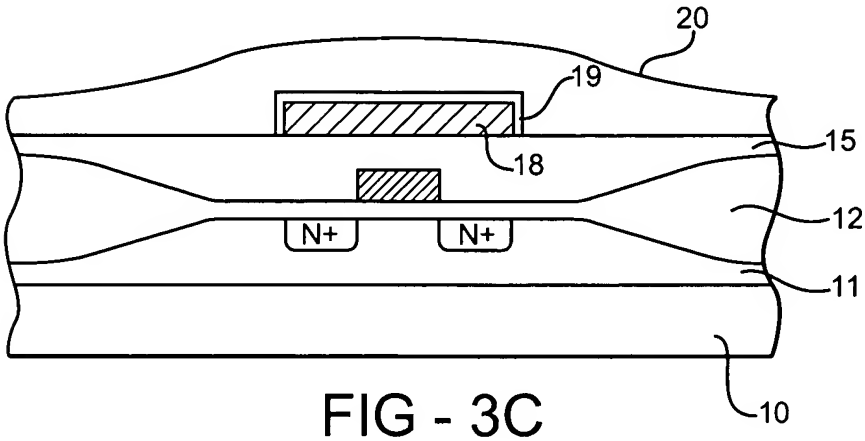

FIG - 3C

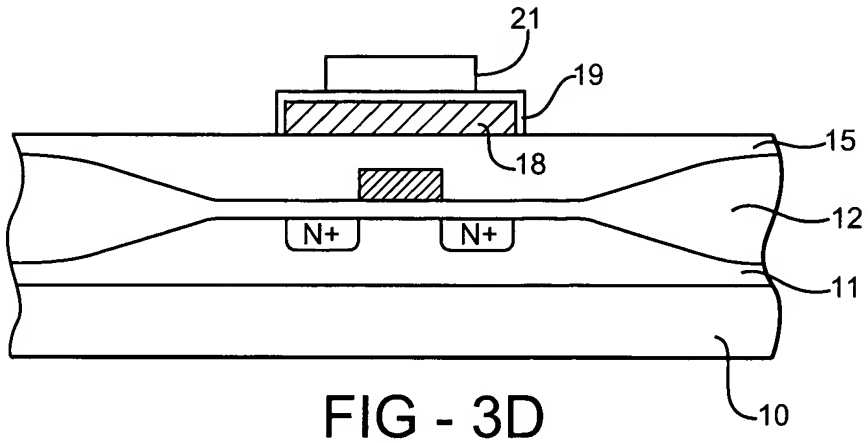

FIG - 3D

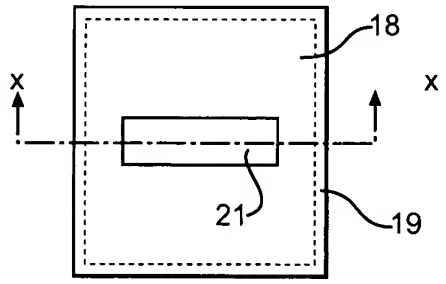

FIG - 3E

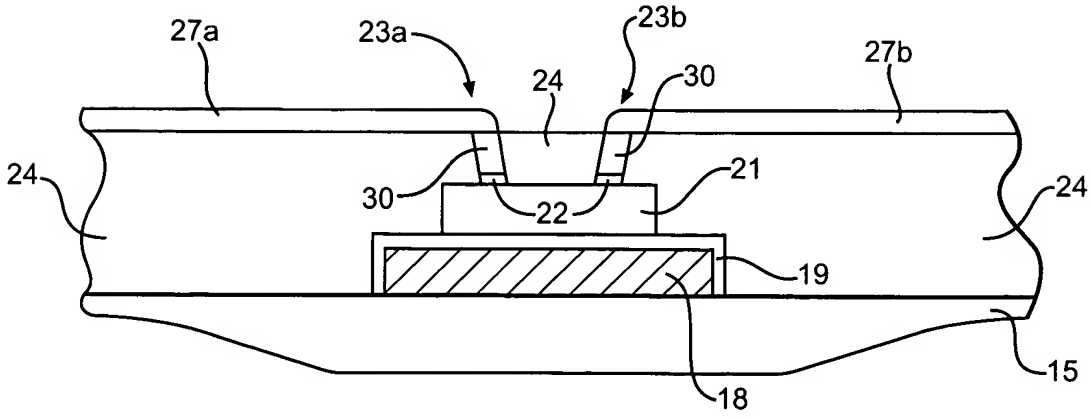

FIG - 3F

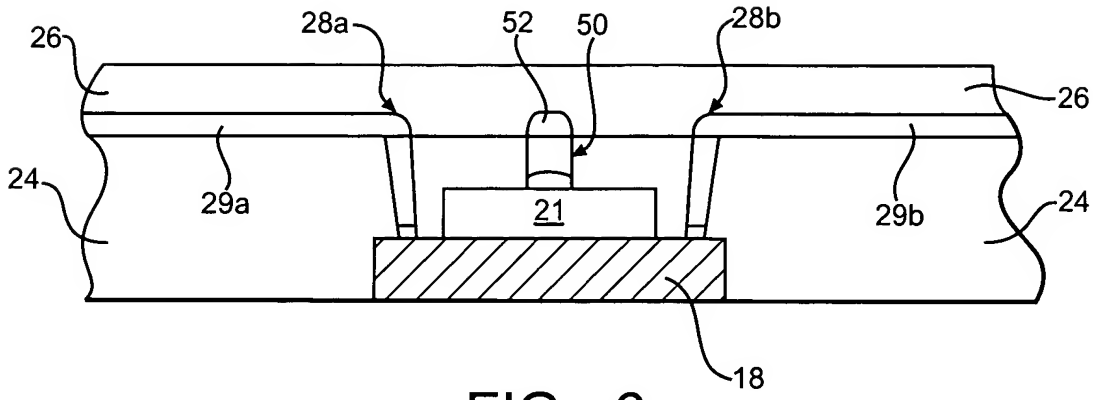
26
28a
52
50
28b
26
24
29a
21
29b
24
18

FIG - 6

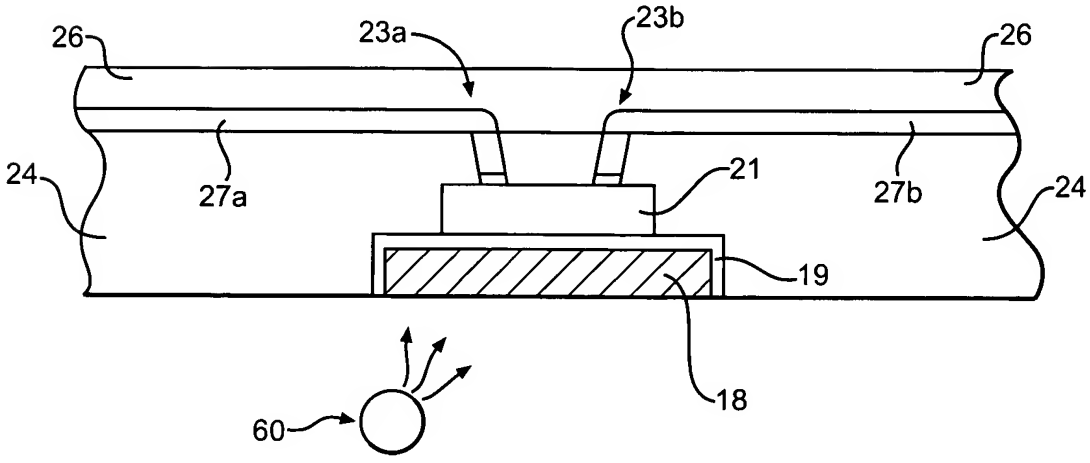
26
23a
23b
26
24
27a
21
27b
24
19
18
60

FIG - 7

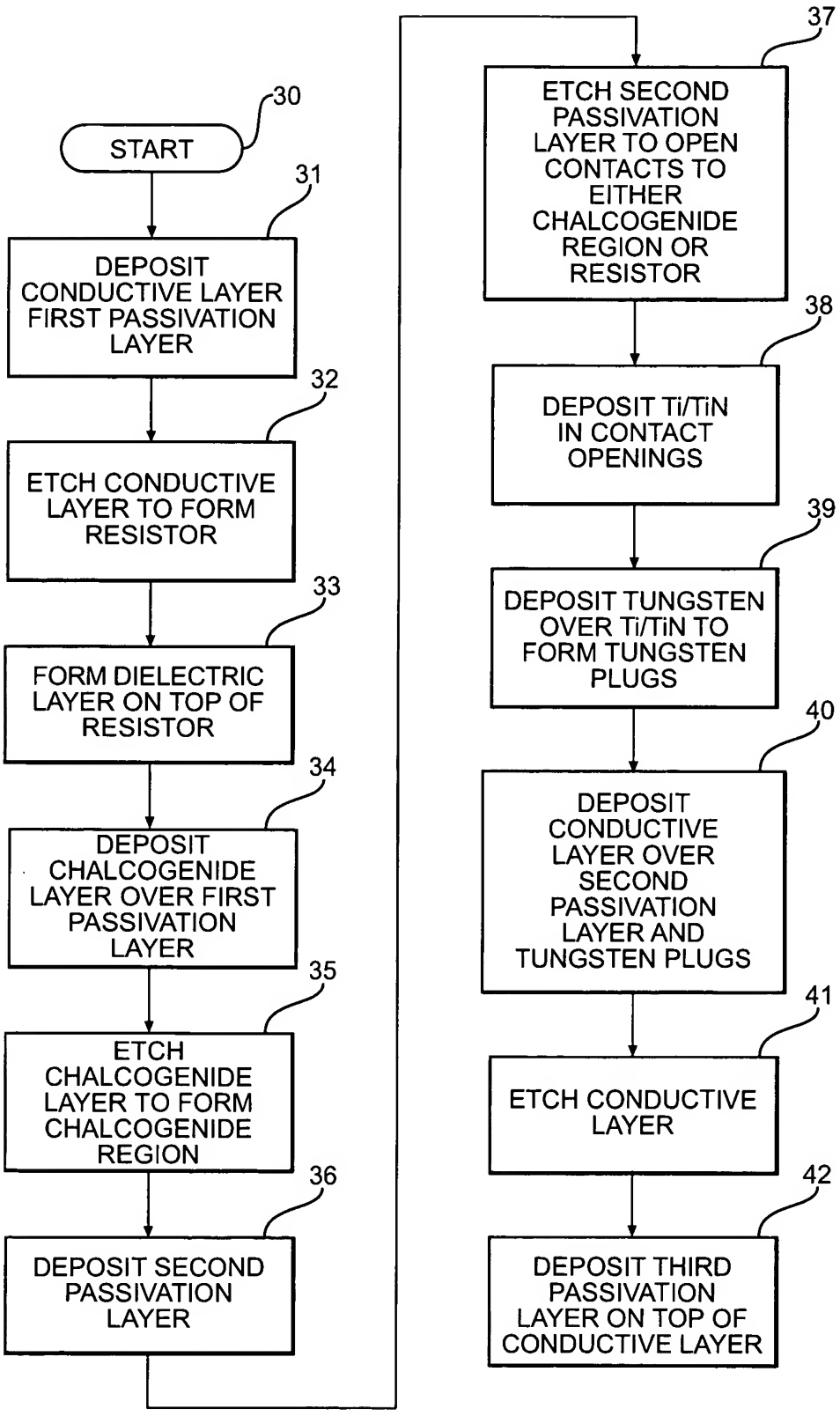
START
30
DEPOSIT CONDUCTIVE LAYER FIRST PASSIVATION LAYER
31
ETCH CONDUCTIVE LAYER TO FORM RESISTOR
32
FORM DIELECTRIC LAYER ON TOP OF RESISTOR
33
DEPOSIT CHALCOGENIDE LAYER OVER FIRST PASSIVATION LAYER
34
ETCH CHALCOGENIDE LAYER TO FORM CHALCOGENIDE REGION
35
DEPOSIT SECOND PASSIVATION LAYER
36
ETCH SECOND PASSIVATION LAYER TO OPEN CONTACTS TO EITHER CHALCOGENIDE REGION OR RESISTOR
37
DEPOSIT Ti/TiN IN CONTACT OPENINGS
38
DEPOSIT TUNGSTEN OVER Ti/TiN TO FORM TUNGSTEN PLUGS
39
DEPOSIT CONDUCTIVE LAYER OVER SECOND PASSIVATION LAYER AND TUNGSTEN PLUGS
40
ETCH CONDUCTIVE LAYER
41
DEPOSIT THIRD PASSIVATION LAYER ON TOP OF CONDUCTIVE LAYER
42

FIG - 4

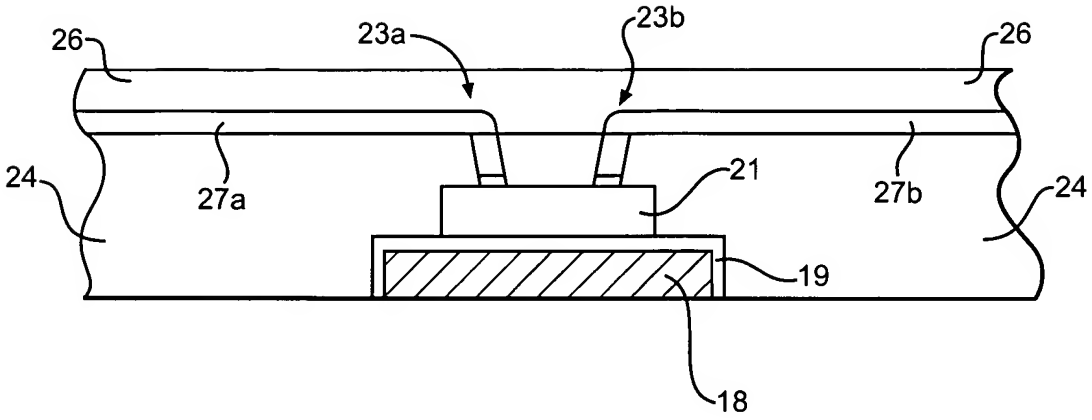

FIG - 3G

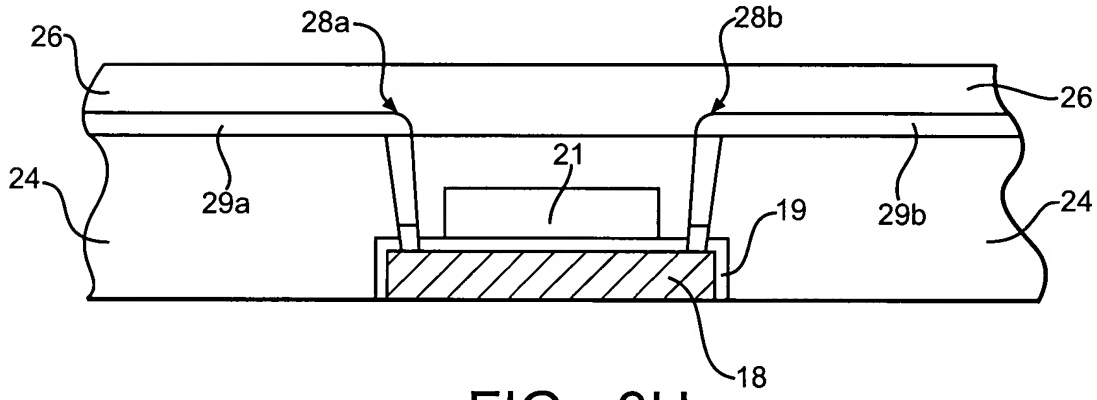

FIG - 3H

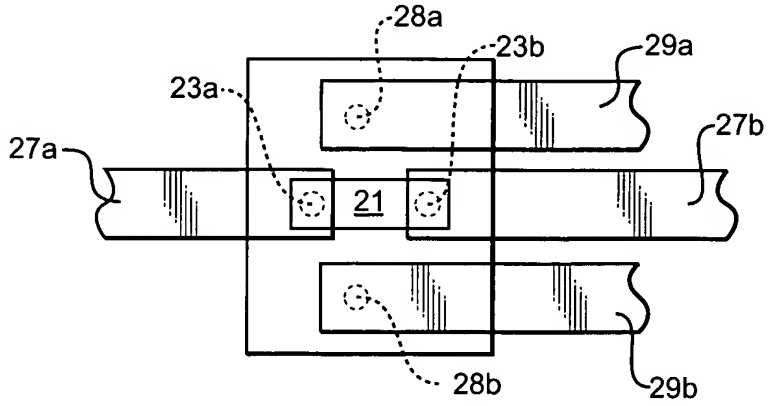

FIG - 5